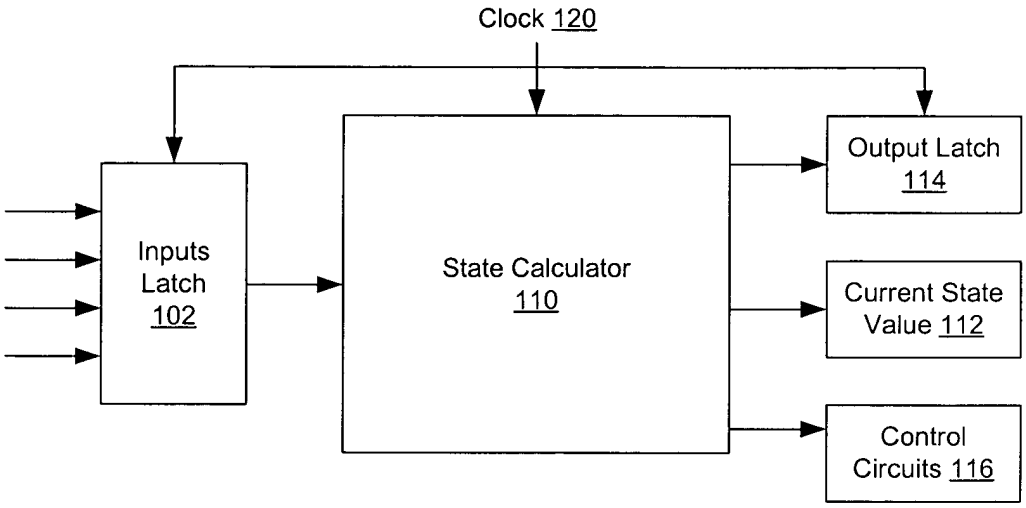
Figure 1



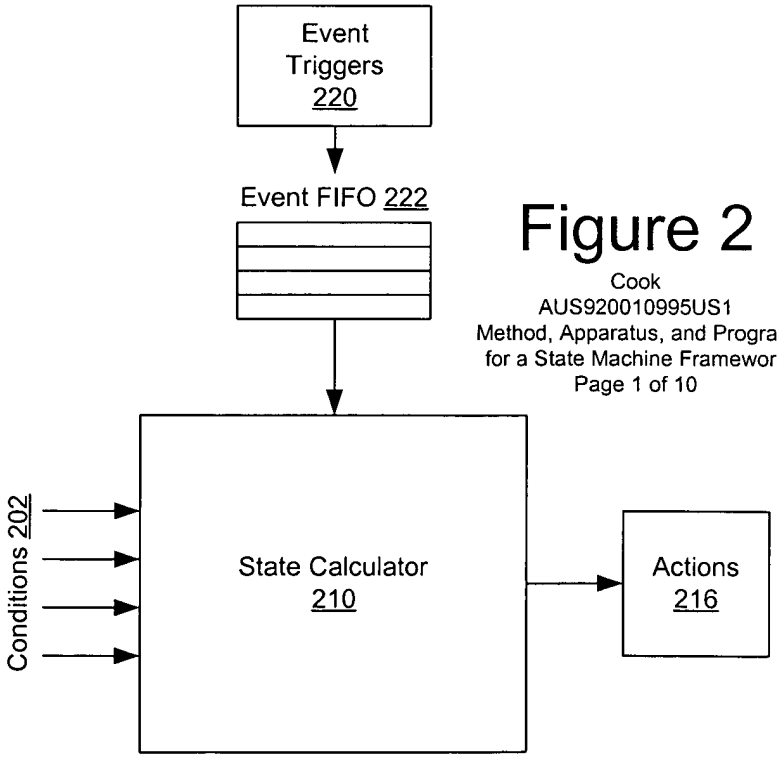
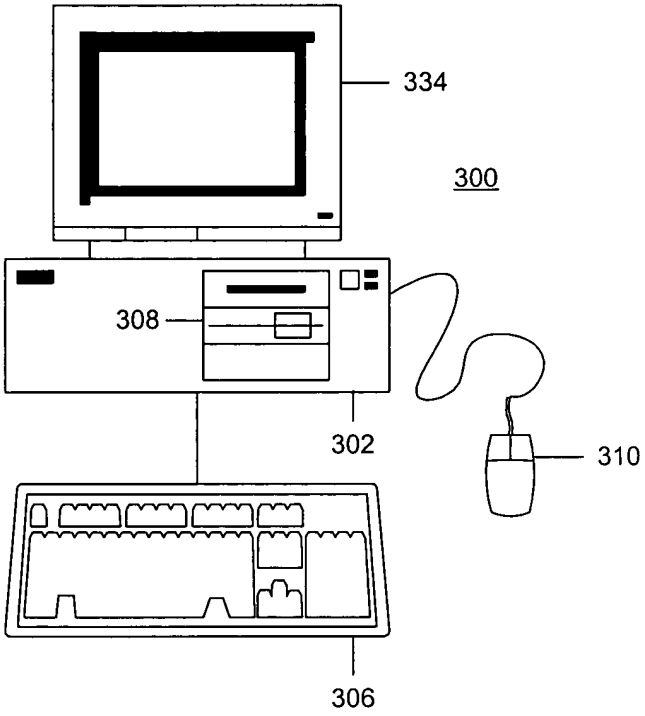


Figure 2

Cook
AUS920010995US1
Method, Apparatus, and Program
for a State Machine Framework
Page 1 of 10

Figure 3



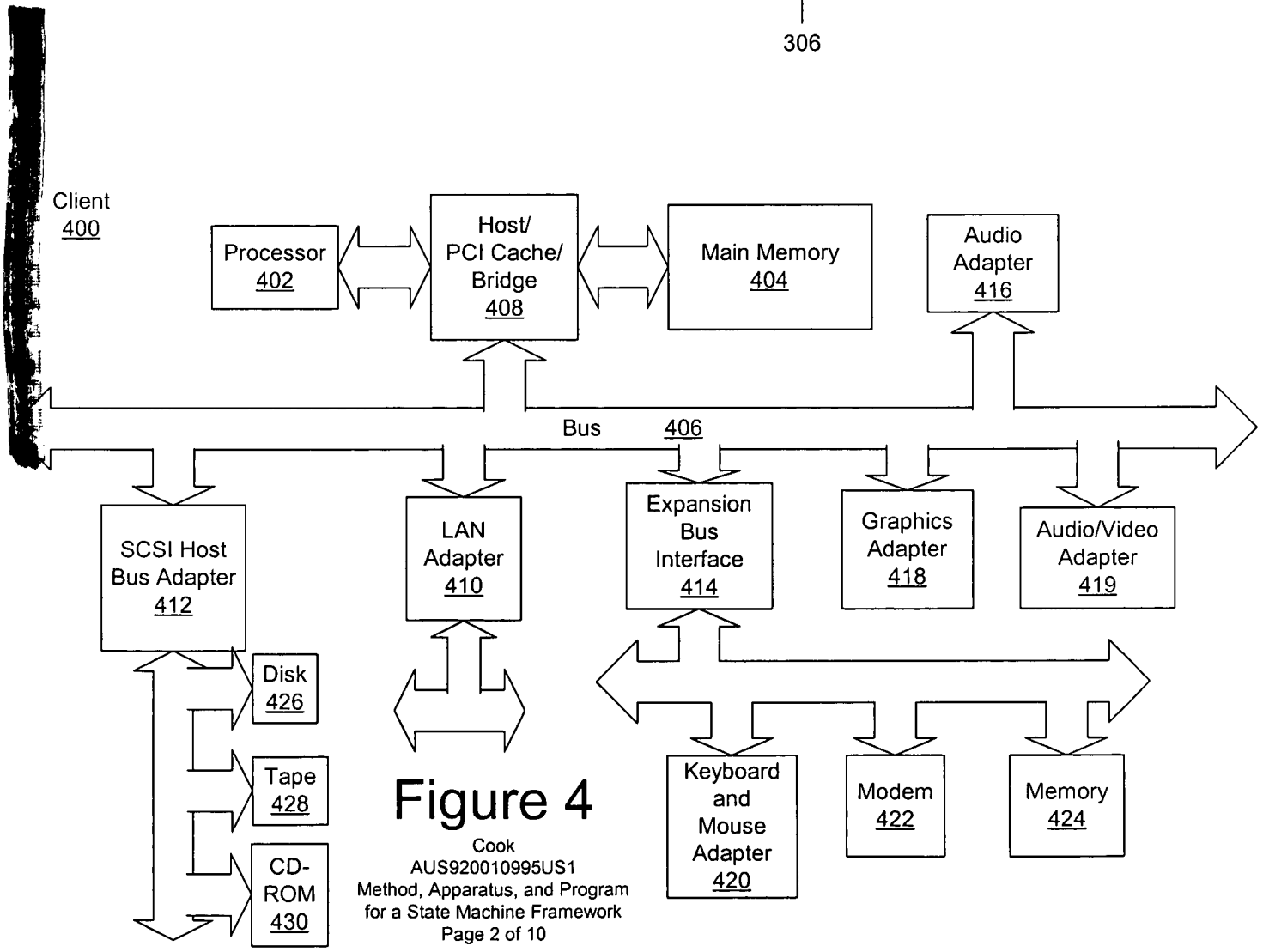


Figure 4

STATES 510

ID	Description
S1	New
S2	Starting
S3	Running
S4	Paused
S5	Stopping
S6	Stopped
S7	Error

ACTIONS 520

ID	Description
A1	Start Embedded Task
A2	Stop Embedded Task
A3	Pause Trace Subsystem
A4	Resume Trace Subsystem

INPUTS 530

ID	Description
TSV	Embedded Task State Variable {"new", "starting", "running", "stopping", "stopped", "error"}
CSV	Embedded Command State Variable {"no-op", "start", "stop", "pause", "resume"}

CONDITIONS 560

ID	CSV Value	TSV Value
C1	no-op	new
C2	start	new or starting
C3	start	running
C4	stop	new
C5	--	error
C6	stop	starting or running
C7	--	stopped
C8	resume	running
C9	stop	running
C10	pause	running
C11	--	stopping

EVENTS 540

ID	Description
E1	State Changed Event

TRIGGERS 570

ID	Description
T1	State Changed Event
T2	New Command Written

Figure 5A

STATE TABLE 550

Current State/ Next State	S1	S2	S3	S4	S5	S6	S7
S1	C1 -- --	C2 A1 E1	C3 -- E1	X	X	C4 -- E1	C5 -- E1
S2	X	C2 -- --	C3 A4 E1	X	C6 A2,A3 E1	C7 -- E1	C5 -- E1
S3	X	X	C3 C8 -- -- -- --	C10 A3 E1	C9 A2,A3 E1	C7 A3 E1	C5 A3 E1
S4	X	X	C8 A4 E1	C10 -- --	C9 A2,A3 E1	C7 A3 E1	C5 A3 E1
S5	X	X	X	X	C11 -- --	C7 -- E1	C5 -- E1
S6	X	X	X	X	X	C7 -- --	X
S7	X	X	X	X	X	X	C5 -- --

Figure 5B

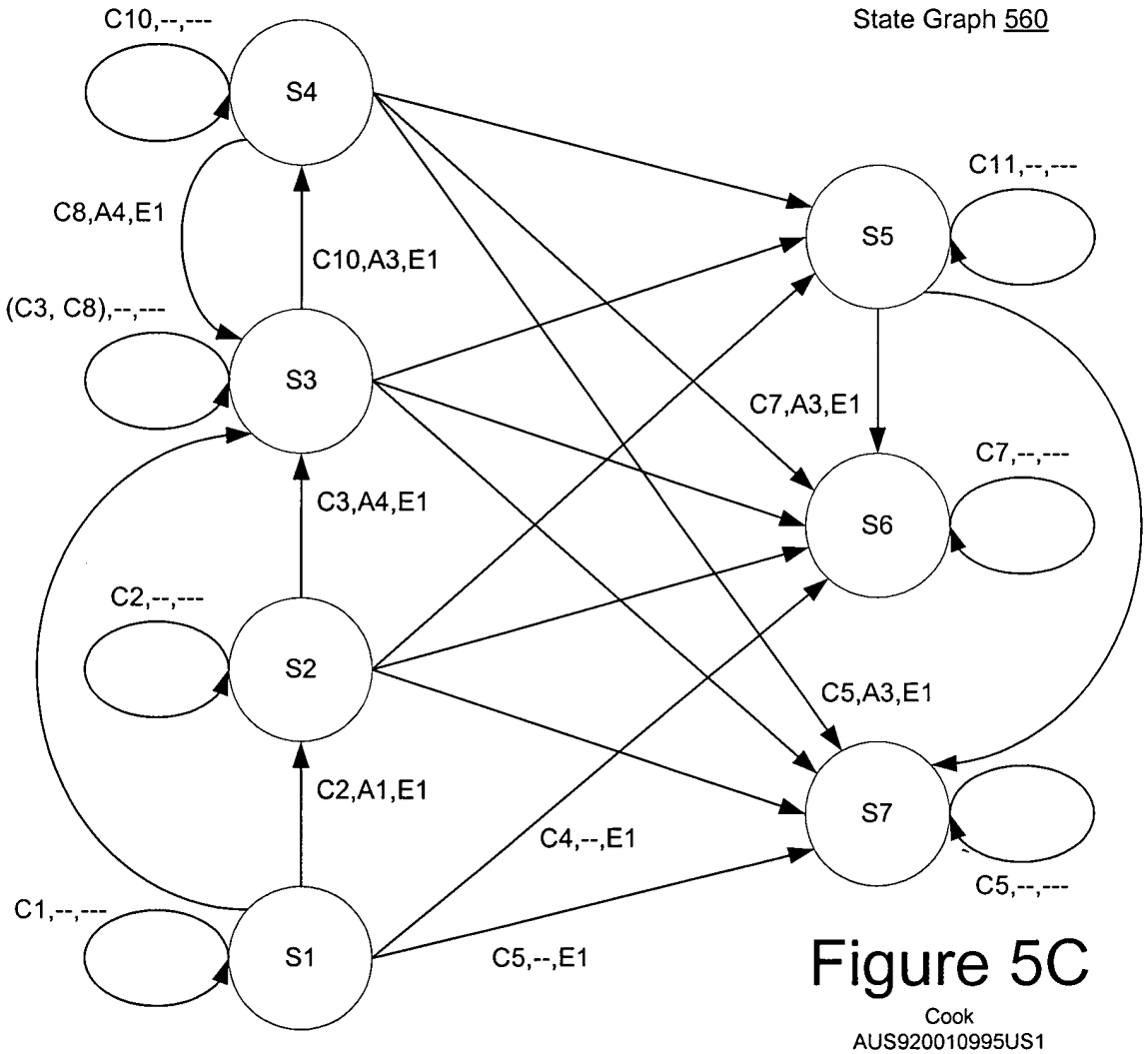

State Graph 560
C10,--,---
S4
C8,A4,E1
C10,A3,E1
(C3, C8),--,---
S3
C3,A4,E1
C2,--,---
S2
C2,A1,E1
C1,--,---
S1
C11,--,---
S5
C7,A3,E1
C7,--,---
S6
C5,A3,E1
S7
C4,--,E1
C5,--,---
C5,--,E1

Figure 5C

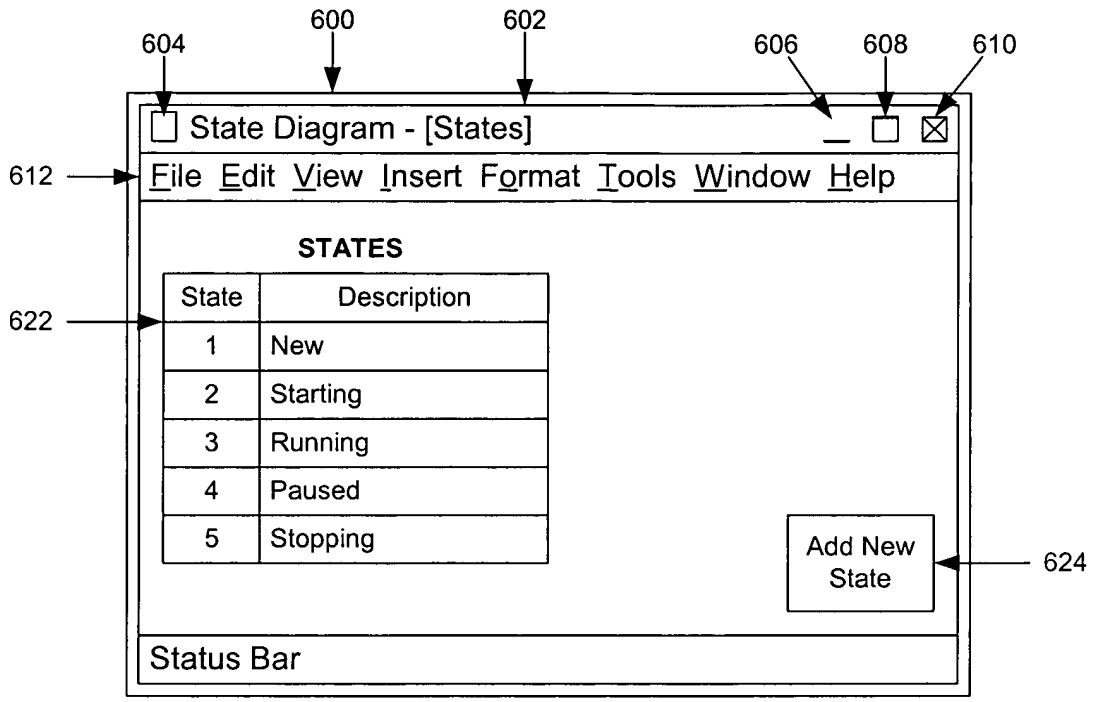


Figure 6A

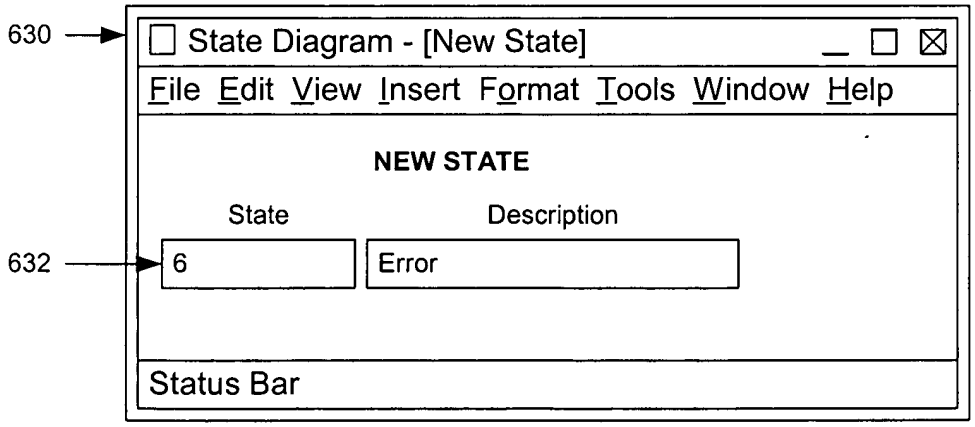


Figure 6B

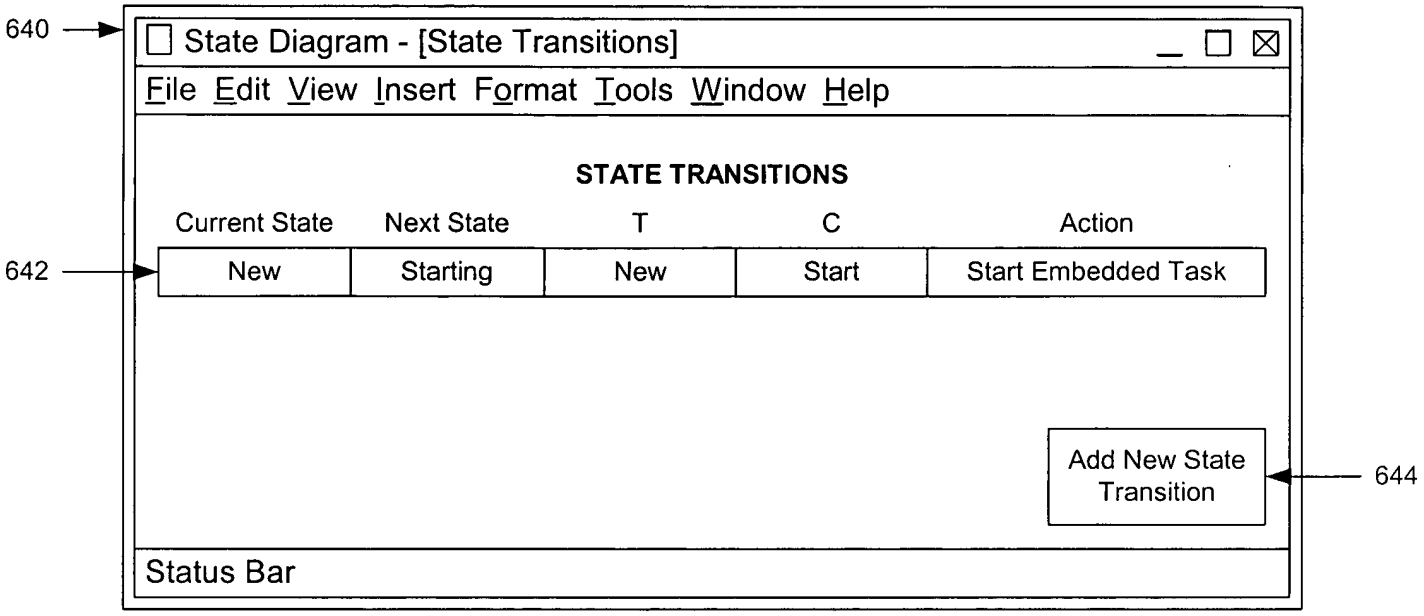


Figure 6C

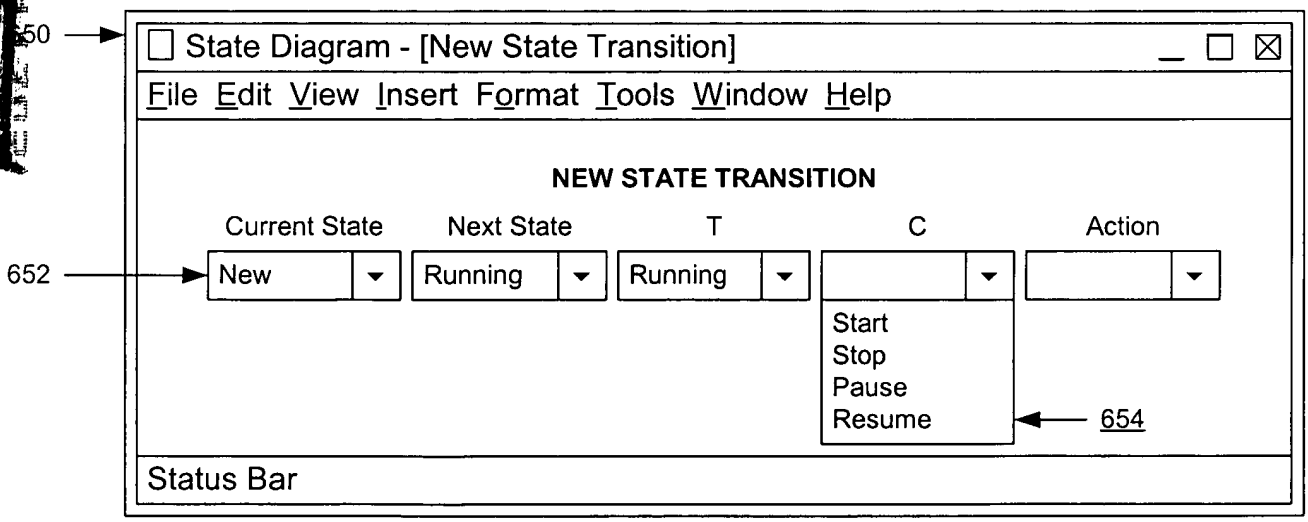


Figure 6D

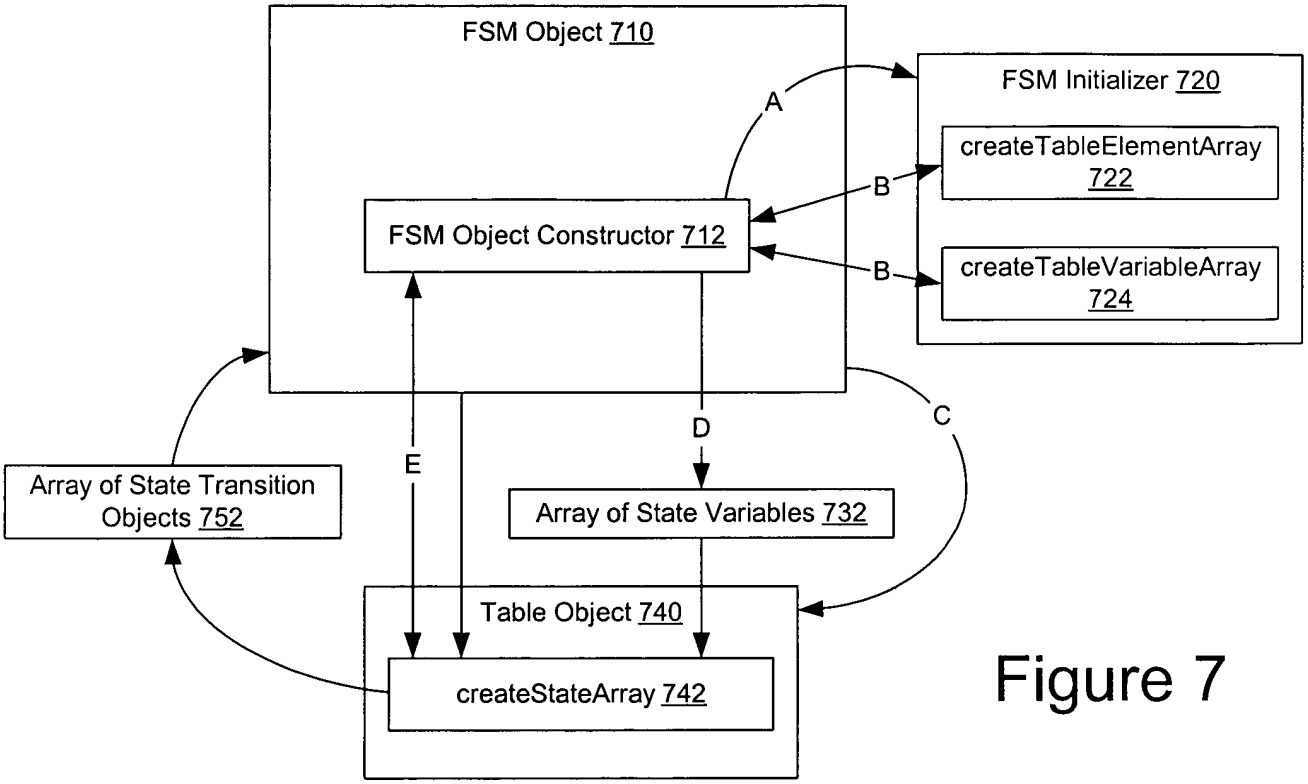
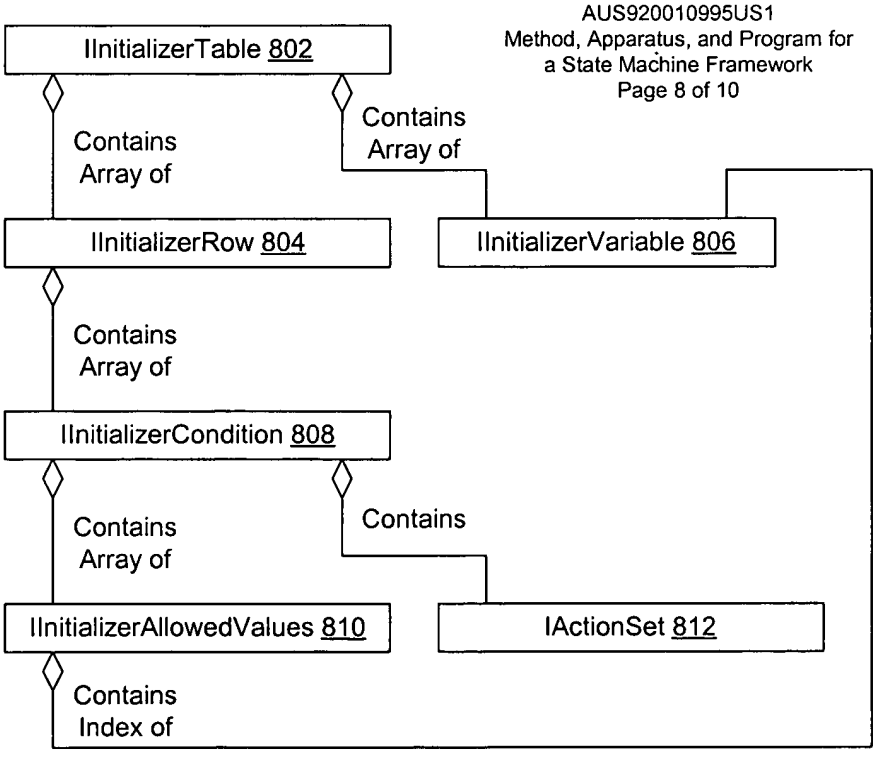


Figure 7

Figure 8A



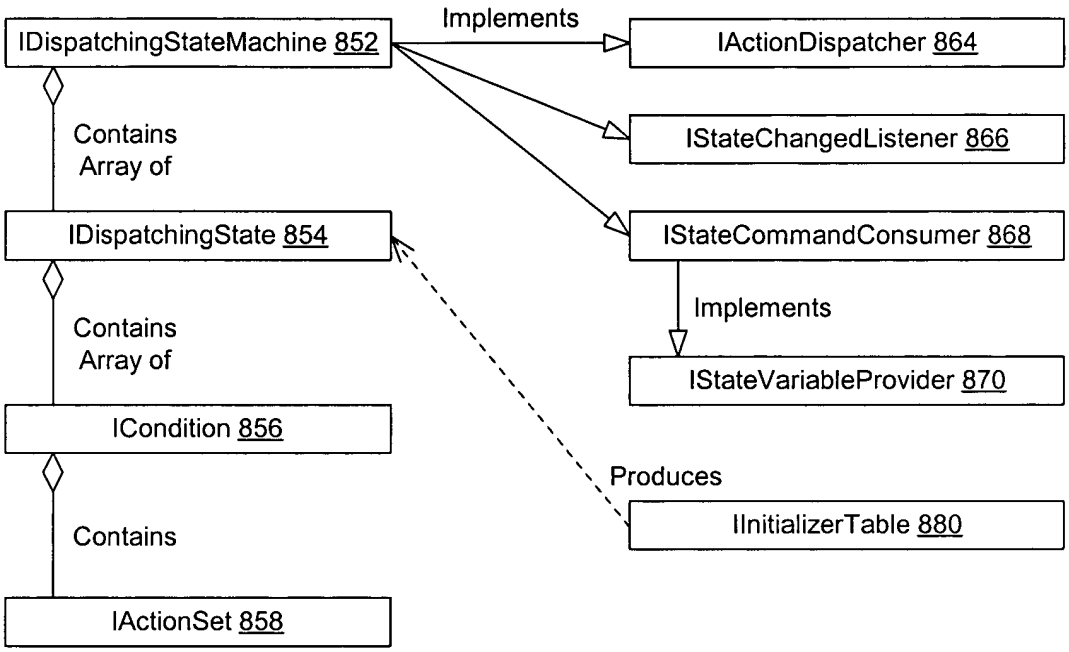


Figure 8B

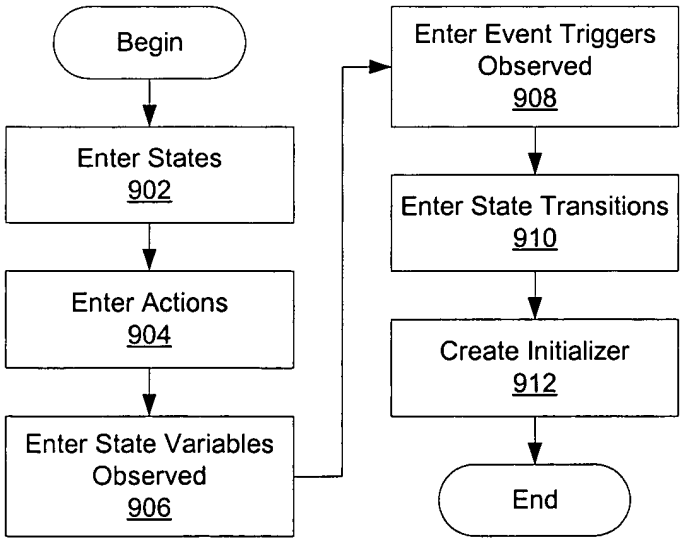
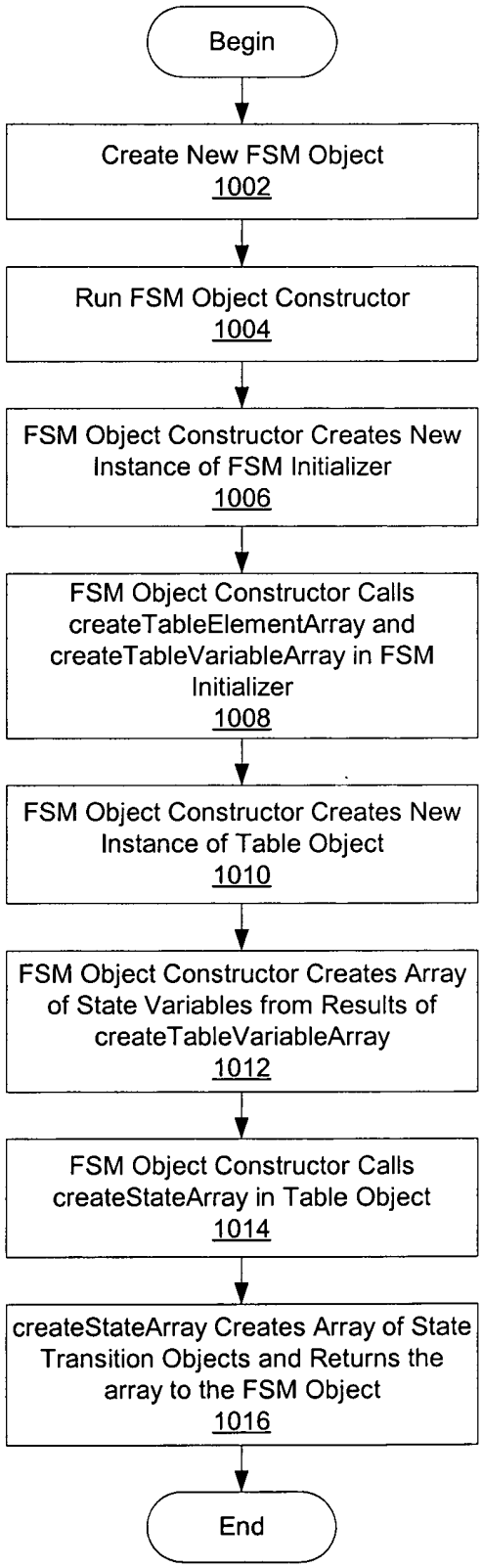


Figure 9


Begin
Create New FSM Object
1002
Run FSM Object Constructor
1004
FSM Object Constructor Creates New Instance of FSM Initializer
1006
FSM Object Constructor Calls createTableElementArray and createTableVariableArray in FSM Initializer
1008
FSM Object Constructor Creates New Instance of Table Object
1010
FSM Object Constructor Creates Array of State Variables from Results of createTableVariableArray
1012
FSM Object Constructor Calls createStateArray in Table Object
1014
createStateArray Creates Array of State Transition Objects and Returns the array to the FSM Object
1016
End